DOCUMENTATION OF ARCTIC-YUKON-KUSKOKWIM REGION SALMON ESCAPEMENT GOALS IN EFFECT AS OF THE 1992 FISHING SEASON

By

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INTRODUCTION

A salmon escapement goal policy was approved by the Commissioner in October 1992 (Attachment A). Consistent with that policy, each region is required to document the salmon escapement goals in effect at that time. The policy provides a procedure for the development and implementation of new or revised salmon escapement goals. The purpose of this report is to document the Arctic-Yukon-Kuskokwim (AYK) Region salmon escapement goals in effect as of the 1992 fishing season. This report will be revised on a periodic basis to document changes or additions that may be made to these goals consistent with the new policy.

Each of the salmon escapement goals, or set of related goals, for the AYK Region is documented in this report on a standard form organized by management area. This documentation includes citation of the most recent fishery management plan or fishery management report which references the particular escapement goal.

A brief note is warranted here to explain the general background of the salmon escapement goals in the AYK Region. The AYK Region includes the major portion of the land mass of the State of Alaska, consisting of the entire area north of the Alaska Range. Salmon spawning stocks are widely distributed throughout the Kuskokwim River and Bay drainages, the Yukon River drainage, the Norton Sound river drainages, and the Kotzebue Sound river drainages. This encompasses an area substantially larger than the area of the Pacific Coast states of California, Oregon, and Washington combined.

Given the vastness of the region and the limited budget available, low level fixed wing aerial surveys of key index systems has typically been the method used to assess salmon spawning escapement abundance. These survey counts are only indices of abundance due to the difficulty in observing salmon completely and consistently in the spawning areas, and the fact that not all spawners for a given escapement are present on the date of the survey. Nonetheless, when survey observers, timing, and methods are standardized to the extent feasible, and survey conditions meet acceptable criteria, the resulting counts are taken to represent an index of spawning abundance. For a few stocks, field projects are operated to more accurately and completely estimate spawning escapement. Such methods have included counting towers, weirs, side-scanning sonar, and tagging studies.

In the early 1980's, salmon escapement objectives were set for selected systems in the AYK region for the first time. In a very few cases where catch could be attributed to a specific spawning stock and an adequate historical record existed, the objectives were based upon a more rigorous analysis of escapement and return data fitted to standard fisheries models. For most stocks, however, the objectives were typically a simple average of observed escapements for prior years. Some years were typically excluded from such averages due to poor survey conditions, or due to spawning escapements that were perceived as outlier high or low and not appropriate for setting targets for the future. The resulting averages were termed "escapement objectives", and were stated in terms of the units of measure of the escapement database. For example, if escapement was estimated by aerial survey of a specific index area within a stream during a

particular range of dates, the objective was stated in the same terms. Similarly, if the escapement was estimated by side-scanning sonar, then the objective was stated in terms of side-scanning sonar counts.

The underlying principle in the setting of these salmon escapement objectives was that maintenance of an average or better spawning escapement in the future should provide for sustained yield consistent with historical levels. It was not known how the escapement objectives related to the maximum sustained yield (MSY) levels for the stocks.

It should be further noted that in most cases, the salmon spawning escapement data are obtained after the bulk of the fishery harvest has occurred. Therefore, the escapement goals are a benchmark by which to judge, on a post-season basis, the effectiveness of the fishery management plan and in-season fishery management actions. This assessment contributes to the formulation of management strategies for subsequent years.

Since the initial setting of salmon escapement objectives in the AYK Region in the early 1980's, a few revisions and additions have been made over the years. With the establishment of the new salmon escapement goal policy, the terms defined therein have been applied. Therefore, the AYK salmon "escapement objectives" are now termed "biological escapement goals" (BEG's) in this report. Application of this new terminology does not alter the fact that these targets are generally based upon a simple inspection and averaging of historical counts.

Finally, it should be noted that the salmon escapement goals for portions of the AYK Region were under reevaluation at the time this report was prepared. The escapement goals in effect for the 1992 fishing season are those reported here. Any salmon escapement goal revisions that may occur in the AYK Region, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

KUSKOKWIM AREA

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kwethluk River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   1,000 aerial survey count for index area Three-Step Mt to Canyon Creek
   200 aerial survey count for Canyon Creek

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kisaralik River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   1,000 aerial survey count for index area Airstrip to Kisaralik Lake
   100 aerial survey count for Kasigluk River (upper to lower)

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Tuluksak River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   400 aerial survey count for index area Fog River to Bear Creek

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Aniak River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   1,500 aerial survey count for index area Buckstock River to Aniak Lake
   600 aerial survey count for Salmon River

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *First Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Holitna River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   2,000 aerial survey count for index area Nogamut to Kashegelok
   10,000 weir count at Kogrukluk River weir site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Aerial survey count goal for index area is the long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. Weir count goal was determined in a similar manner using weir count data available through 1983. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Salmon River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   1,300 aerial survey count for Pitka Fork

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kanektok River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   5,800 aerial survey count for Kanektok River to Kagati Lake

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Goodnews River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   1,600 aerial survey count for Main Fork and lakes
   800 aerial survey count for Middle Fork and lakes
   3,500 tower/weir counts at Middle Fork tower/weir site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. Tower/weir count goal was determined in a similar manner using tower/weir count data available through 1983. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kwethluk River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   7,000 aerial survey count for index area Three-Step Mt to Canyon Creek

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand chum. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kisaralik River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   8,000 aerial survey count for index area Airstrip to Kisaralik Lake
   4,000 aerial survey count for Kasigluk River (upper to lower)

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand chum. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Tuluksak River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   5,000 aerial survey count for index area Fog River to Bear Creek

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand chum. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Aniak River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   10,000 aerial survey count for index area Buckstock River to Aniak Lake
   3,000 aerial survey count for Salmon River
   250,000 sonar count at Aniak River sonar site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *First Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand chum. Sonar count goal was determined in a similar manner using sonar count data available through 1983. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Holitna River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   49,000 aerial survey count for entire drainage
   30,000 weir count at Kogrukluk River weir site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Aerial survey count goal for index area is the long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one hundred chinook. Weir count goal was determined in a similar manner using weir count data available through 1983. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kanektok River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   30,500 aerial survey count for Kanektok River to Kagati Lake

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand chum. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Goodnews River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   17,000 aerial survey count for Main Fork and lakes
   4,000 aerial survey count for Middle Fork and lakes
   15,000 tower/weir counts at Middle Fork tower/weir site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand chum. Tower/weir count goal was determined in the same manner using tower/weir count data available through 1983. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Holitna River Sockeye Salmon

2. *Biological Escapement Goal and Units of Measure*:
   1,000 aerial survey count for index area Nogamut to Kashegelok
   2,000 weir count at Kogrukluk River weir site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Aerial survey count goal for index area is the long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand sockeye. Weir count goal was determined in a similar manner using weir count data available through 1983. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kanektok River Sockeye Salmon

2. *Biological Escapement Goal and Units of Measure*:
   15,000 aerial survey count for Kanektok River to Kagati Lake

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   In 1989 it was determined that the previously established goal of 32,000 sockeye was too high. The goal was lowered to 15,000 sockeye beginning with the 1990 season (reference: Francisco, R.K. and seven coauthors. 1991. Annual Management Report, Kuskokwim Area, 1990. ADF&G, Commercial Fisheries Division, RIR 3B91-11). The analysis was based upon escapement-return indices observed in the Kanektok River drainage, sockeye salmon exploitation rates estimated for the Goodnews River drainage, and the long term average exploitation rate of sockeye salmon in the Togiak River district. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   Prior to 1990, an escapement goal of 32,000 sockeye was in place. This was based upon the long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand sockeye.

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ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Goodnews River Sockeye Salmon

2. *Biological Escapement Goal and Units of Measure*:
   15,000 aerial survey count for Main Fork and lakes
   5,000 aerial survey count for Middle Fork and lakes
   25,000 tower/weir counts at Middle Fork tower/weir site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand sockeye. Tower/weir count goal at the Middle Fork tower/weir site was lowered in 1989 from 35,000-40,000 sockeye to 20,000-30,000 (mid-point of 25,000 as a point goal), based upon an analysis of total run and exploitation rates (reference: Francisco, R.K. and eight coauthors. 1990. Annual Management Report, Kuskokwim Area, 1989. ADF&G, Commercial Fisheries Division, RIR 3B90-25). It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   Tower/weir count goal at the Middle Fork tower/weir site had been 35,000-40,000 sockeye based upon an average through 1983. This goal was revised to 20,000-30,000 (mid-point of 25,000 as a point goal) in 1989, based upon an analysis of total run and exploitation rates.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kogrukluk River Coho Salmon

2. *Biological Escapement Goal and Units of Measure*:
   25,000 weir count at Kogrukluk River weir site

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Weir count goal was determined by averaging annual weir counts through 1983, and rounding to the nearest thousand coho. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
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ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kanektok River Coho Salmon

2. *Biological Escapement Goal and Units of Measure*:
   25,000 aerial survey count for Kanektok River to Kagati Lake

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand coho. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
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ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Goodnews River Coho Salmon

2. *Biological Escapement Goal and Units of Measure*:
   15,000 aerial survey count for Main Fork and lakes
   2,000 aerial survey count for Middle Fork and lakes

3. *Published Reference for This Biological Escapement Goal*:
   Francisco, R.K. and three coauthors. 1992. Report to the Alaska Board of Fisheries, Kuskokwim Area, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-28.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of peak annual aerial surveys rated good or fair. Surveys rated poor were excluded. If a single exceptionally high survey count dominated the average it was excluded. Resulting average was rounded to the nearest one thousand coho. It should be noted that salmon escapement goals for the Kuskokwim Area were under reevaluation at the time this report was prepared. Any salmon escapement goal revisions that may occur, consistent with the new policy, will be documented in future editions of this salmon escapement goal documentation report.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

YUKON AREA

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Andreafsky River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >1,500 aerial survey count for East Fork
   >1,400 aerial survey count for West Fork

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1972 through 1990 of peak annual aerial surveys. Prior to computing the long term average, surveys rated poor or missing from the database were estimated based on historical relationships among different streams in the Yukon Area. Resulting average was rounded to the nearest one hundred chinook.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   The first chinook salmon aerial survey escapement goal for the Andreafsky River of 1,500 for both forks combined was proposed in 1979. In April 1982 a goal of 1,700 was proposed for the East Fork and 1,300 for the West Fork. In April 1984 an escapement goal range was established for each fork: 1,100 to 1,600 for the East Fork and 700 to 1,000 for the West Fork (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1988, the goals for each fork were taken as the upper end of the ranges, i.e., 1,600 chinook for the East Fork and 1,000 chinook for the West Fork (reference: Whitmore, C. and six coauthors. 1990. Yukon Area annual management report, 1988. ADF&G, Commercial Fisheries Division, RIR 3A90-28). Chinook salmon escapement goals for the Yukon River were reevaluated in the spring of 1991 and the present goals were made effective for the 1992 season.

ALASKA DEPARTMENT OF FISH AND GAME
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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Anvik River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >1,300 aerial survey count for entire Anvik River drainage
   >500 aerial survey count for index area Yellow R. to McDonald Cr.

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1972 through 1990 of peak annual aerial surveys. Prior to computing the long term average, surveys rated poor or missing from the database were estimated based on historical relationships among different streams in the Yukon Area. Resulting average was rounded to the nearest one hundred chinook.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   The first chinook salmon escapement goal for the Anvik River of 900 chinook salmon above the counting tower was proposed in 1979, although it is unclear as to whether that goal was in terms of tower or aerial survey counts. In April 1982 an aerial survey goal of 1,300 chinook was proposed for the mainstem Anvik River and its tributaries with the exception of the Yellow River. In April 1984 an escapement goal range of 300 to 500 chinook was established for the mainstem Anvik River between the Yellow River and McDonald Creek (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1988 the goal was taken as the upper end of this range (reference: Whitmore, C. and six coauthors. 1990. Yukon Area annual management report, 1988. ADF&G, Commercial Fisheries Division, RIR 3A90-28). Chinook salmon escapement goals for the Yukon River were reevaluated in the spring of 1991 and the present goals were made effective for the 1992 season.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Nulato River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >800 aerial survey count for North Fork
   >500 aerial survey count for South Fork

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1972 through 1990 of peak annual aerial surveys. Prior to computing the long term average, surveys rated poor or missing from the database were estimated based on historical relationships among different streams in the Yukon Area. Resulting average was rounded to the nearest one hundred chinook.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A chinook salmon aerial survey escapement goal range of 400 to 1,100 was proposed in 1981 for the entire Nulato River (both forks combined). In April 1982 a single goal of 1,200 chinook salmon was proposed for both the North and South Fork combined. In April 1984 an escapement goal of 500 chinook salmon for each fork was established (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). Chinook salmon escapement goals for the Yukon River were reevaluated in the spring of 1991 and the present goals were made effective for the 1992 season.

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ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Gisasa River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >600 aerial survey count

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1972 through 1990 of peak annual aerial surveys. Prior to computing the long term average, surveys rated poor or missing from the database were estimated based on historical relationships among different streams in the Yukon Area. Resulting average was rounded to the nearest one hundred chinook.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A chinook salmon aerial survey escapement goal range of 300 to 700 was proposed in 1981. In April 1982 a goal of 600 chinook salmon was proposed. In 1984 a goal of 650 chinook salmon was established (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). Chinook salmon escapement goals for the Yukon River were reevaluated in the spring of 1991 and the present goals were made effective for the 1992 season.

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ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Chena River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >1,700 aerial survey count for index area Moose Cr. Dam to Middle Fork R.

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Average from 1978 through 1983 of peak annual aerial surveys, with no years missing or excluded. Resulting average was rounded to the nearest one hundred chinook (1,800). However, that number was reduced approximately 7% and rounded to the nearest one hundred chinook (1,700) for the index area Moose Creek dam to the Middle Fork River, based upon historic spawner distribution.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   An aerial survey escapement goal range of 300 to 1,800 chinook salmon was proposed for the Chena River in 1981. In April 1982 a goal of 1,300 chinook salmon was proposed. In April 1984 a chinook salmon escapement goal range of 1,000 to 1,700 was established for the Chena River index area from Moose Creek Dam to the Middle Fork confluence. The low end of the range was the average peak aerial survey estimate for the years 1972-1977, while the upper end of the range was the average estimates for the years 1978-1983 (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1988, the escapement goal was taken as 1,700 chinook, the upper end of the former range (reference: Whitmore, C. and six coauthors. 1990. Yukon Area annual management report, 1988. ADF&G, Commercial Fisheries Division, RIR 3A90-28).

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Salcha River Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >2,500 aerial survey count for index area TAPS crossing to Caribou Cr.

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Goal is the midpoint of the range 1,500 to 3,500 chinook. Low end of range is average from 1972 through 1977 of peak annual aerial surveys, while upper end of range is average from 1978 through 1983 of peak annual aerial surveys, with no years missing or excluded for either average. Resulting averages were rounded to the nearest one hundred chinook.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   In 1979 a chinook salmon aerial survey escapement goal of 1,500 for the Salcha River was proposed. In 1981 an escapement goal range of 800 to 3,100 was proposed. In April 1982 a goal of 3,000 was proposed. In April 1984 an escapement goal range of 1,500 to 3,500 was established for the index area from the Trans Alaska Pipeline System (TAPS) crossing upstream to Caribou Creek. The low end of the range was the average peak aerial survey estimate for the years 1972-1977, while the upper end of the range was the average estimates for the years 1978-1983 (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1988, the goal was taken as 3,500 chinook, the upper end of the former range (reference: Whitmore, C. and six coauthors. 1990. Yukon Area annual management report, 1988. ADF&G, Commercial Fisheries Division, RIR 3A90-28). The current goal was established beginning with the 1990 season (reference: ADF&G. 1991. Salmon fisheries in the Yukon Area, Alaska, 1990. A report to the Alaska Board of Fisheries. ADF&G, Commercial Fisheries Division, RIR 3F91-02).

ALASKA DEPARTMENT OF FISH AND GAME
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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Mainstem Yukon River (in Canada) Chinook Salmon

2. *Biological Escapement Goal and Units of Measure*:
   33,000 to 43,000 tagging population estimate of spawning escapement based upon the DFO tagging study on the mainstem Yukon River minus documented upstream fishery harvests (Note that a stabilization plan has been established for this stock, with the objective of a spawning escapement of >18,000 annually through 1995. A rebuilding plan beginning in 1996, with rebuilding escapement objectives, has not yet been established.)

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Established by the U.S./Canada Joint Technical Committee (reference: U.S./Canada Yukon River JTC. 1987a. Yukon River technical report, April 1987). Escapement goal range was based upon an analysis of aerial survey index count data, fishway count data, and tagging study population estimates for the base period 1979-1984.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Andreafsky River Summer Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >109,000 aerial survey count for East Fork
   >116,000 aerial survey count for West Fork

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average through 1983 of available peak annual aerial surveys, excluding years when surveys were flown prior to 20 July. Resulting average was rounded to the nearest one thousand chum.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A summer chum salmon aerial survey escapement goal of 160,000 was proposed in 1979 for the East and West Fork of the Andreafsky River combined. In April 1982 an escapement goal of 100,000 summer chum salmon for each fork of the Andreafsky River was proposed. In April 1984 an escapement goal range was established for each fork: 76,000 to 109,000 for the East Fork and 62,000 to 116,000 for the West Fork (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1988 the goals for each fork were taken as the upper end of the ranges, i.e., 109,000 for the East Fork and 116,000 for the West Fork (reference: Whitmore, C. and six coauthors. 1990. Yukon Area annual management report, 1988. ADF&G, Commercial Fisheries Division, RIR 3A90-28).

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Anvik River Summer Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >500,000 sonar count at the Anvik River sonar site
   >356,000 aerial survey count for index area Goblet Creek to McDonald Creek

3. *Published Reference for This Biological Escapement Goal*:
   Bergstrom, D.J. and seven coauthors. 1992. Annual Management Report, Yukon Area, 1991. ADF&G, Commercial Fisheries Division, RIR 3A92-26.
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   A Ricker model and approximated return data from five brood year escapements to the Anvik River (1972-1976) were used to generate an escapement goal. The point goal of 487,000 so derived was rounded to 500,000 chum prior to the 1992 season. The aerial survey goal was based upon an averaging of selected historical survey counts.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A tower count escapement goal of 200,000 summer chum was proposed in 1979 for the Anvik River at the upriver tower site. In April 1982 goals were proposed of 230,000 aerial survey counts for the Anvik River and its tributaries, and 500,000 sonar counts at the sonar site. In April 1984, using estimated spawner-return relationships, a sonar count escapement goal of 487,000 was established. Additionally, an aerial survey escapement goal range of 209,000 to 356,000 was established for the mainstem Anvik River between Goblet Creek and McDonald Creek (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1989, the high end of the range (356,000) was taken as the goal (reference: Bergstrom, D.J. and seven coauthors. 1991. Yukon Area annual management report, 1989. ADF&G, Commercial Fisheries Division, RIR 3A91-14).

ALASKA DEPARTMENT OF FISH AND GAME
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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Nulato River Summer Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >53,000 aerial survey count for North Fork

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Average of the 1975, 1977, and 1978 peak annual aerial surveys. Resulting average was rounded to the nearest one thousand chum.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A summer chum salmon aerial survey escapement goal range of 33,700 to 78,400 was proposed for the entire Nulato River (both forks combined) in 1981. In April 1982, a single goal of 75,000 was proposed for both the North Fork and South Fork combined. In April 1984, an escapement goal range of 37,000 to 53,000 was established for the North Fork only. No escapement objective was established for the South Fork (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1989, the high end of the range (53,000) was taken as the goal for the North Fork (reference: Bergstrom, D.J. and seven coauthors. 1991. Yukon Area annual management report, 1989. ADF&G, Commercial Fisheries Division, RIR 3A91-14).

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Hogatza River Summer Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >8,000 aerial survey count for Caribou Creek
   >9,000 aerial survey count for Clear Creek

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Average from 1975 through 1983 of peak annual aerial surveys, excluding 1982 due to late timing of survey in that year. Resulting average was rounded to the nearest one thousand summer chum.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A summer chum salmon aerial survey escapement goal of 15,000 was proposed for the Hogatza River (Clear and Caribou Creeks combined) in 1979. In April 1982, an escapement goal of 20,000 was proposed for the combined Clear and Caribou Creeks. In April 1984, escapement goal ranges were established as follows: 5,000 to 8,000 for Clear Creek and 5,000 to 9,000 for Caribou Creek (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1989, the goals were taken as the upper end of the ranges, i.e., 8,000 for Clear Creek and 9,000 for Caribou Creek (reference: Bergstrom, D.J. and seven coauthors. 1991. Yukon Area annual management report, 1989. ADF&G, Commercial Fisheries Division, RIR 3A91-14).

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Salcha River Summer Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >3,500 aerial survey count

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1960 through 1983 of available peak annual aerial surveys. Resulting average was rounded to the nearest one hundred chum.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A summer chum salmon aerial survey escapement goal range of 1,400 to 5,500 was proposed for the Salcha River in 1981. In April 1982, an escapement goal of 5,000 was proposed. In April 1984, an escapement goal of 3,500 summer chum salmon for the index area from the Trans Alaska Pipeline System (TAPS) crossing upstream to Caribou Creek was established (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division).

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Toklat River Fall Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >33,000 total population estimate for Upper Toklat River spawning area based upon ground survey counts expanded by stream residence time data from the Delta River

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1974 through 1990 of annual spawning escapement population estimates, excluding 1975, 1979, 1981, 1982, 1984, 1986, and 1988 as outlier high or low escapements. Resulting average was rounded to the nearest one thousand chum. Population estimates are obtained by expanding ground survey counts based upon stream residence time data from the Delta River.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A fall chum salmon escapement goal of 40,000 aerial survey counts was proposed for the Toklat River in 1979. In 1981, a range of 30,500 to 75,000 was proposed. In April 1982, a goal of 40,000 was proposed for the upper Toklat River index area. In 1984, a goal of 69,000 for the perceived high abundance cycle years (1971, 1975, 1979, etc), and a goal of 22,000 for low abundance years was established for the index area (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). The goal was revised to 44,000 for all years in the cycle in November 1985, and was a population goal based upon expanded aerial survey counts (reference: ADF&G. 1985. Yukon Area 1985 annual management report. ADF&G, Commercial Fisheries Division). A comprehensive review of escapement data for the Toklat River was made in November 1986. A revised population escapement goal of 33,000 was established based upon a trimmed average of escapements for 1974-1986, excluding the two high and two low years.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Delta River Fall Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >11,000 total population estimate based upon ground survey counts expanded by stream residence time data from the Delta River

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1974 through 1990 of annual spawning escapement population estimates, excluding 1974, 1975, 1980, 1981, 1982, 1987, and 1989 as outlier high or low escapements. Resulting average was rounded to the nearest one thousand chum. Population estimates are obtained by expanding ground survey counts based upon stream residence time data from the Delta River.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A fall chum escapement goal of 7,000 aerial survey counts was proposed for the Delta River in 1979. In 1981, an aerial survey escapement goal range of 4,500 to 11,000 was proposed. In April 1982, a goal of 8,000 was proposed. In April 1984, an escapement goal of 7,900 was established for the Delta River (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). In 1985, a goal of 15,800 was established, and was a population goal based upon expanded aerial survey counts (reference: ADF&G. 1985. Yukon Area 1985 annual management report. ADF&G, Commercial Fisheries Division). A comprehensive review of eescapement data for the Delta River was made in November 1986. A revised population escapement goal of 11,000 was established based upon a trimmed average of escapements for 1974-1986, excluding the two high and two low years.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Sheenjek River Fall Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >64,000 sonar count at the Sheenjek River sonar site

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Long term average from 1974 through 1990 of annual sonar counts or expanded aerial survey population estimates, excluding 1975, 1976, 1980, 1984, 1985, and 1987 as outlier high or low escapements. Resulting average was rounded to the nearest one thousand chum. Aerial survey index counts for the years prior to implementation of the sonar project in 1981 were expanded to population estimates based upon the relationship between sonar counts and aerial survey indices.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A fall chum salmon escapement goal of 20,000 aerial survey counts was proposed for the Sheenjek River in 1979. In 1981, a range of 15,000 to 53,400 was proposed. In April 1982, a goal of 40,000 was proposed. In 1984, a goal of 60,000 fall chums for the perceived high abundance cycle years (1971, 1975, 1979, etc), and 19,000 for low abundance years was established (reference: ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division). The goal was revised to 40,500 for all years in the cycle in November 1985, and was a population goal based upon sonar or expanded aerial survey counts (reference: ADF&G. 1985. Yukon Area 1985 annual management report. ADF&G, Commercial Fisheries Division). A comprehensive review of escapement data for the Sheenjek River was made in November 1986. A revised population escapement goal of 62,000 was established based upon a trimmed average of escapements for 1974-1986, excluding the two high and two low years.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Fishing Branch River (in Canada) Fall Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   50,000 to 120,000 weir count at the Fishing Branch River weir site (Note that a rebuilding plan has been established for mainstem Yukon River fall chum salmon in Canada for the period through 2001, with rebuilding escapement objectives. This rebuilding effort is expected to benefit the Fishing Branch River fall chum salmon stock, but specific rebuilding escapement objectives have not been set for the Fishing Branch River.)

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Established by the U.S./Canada Joint Technical Committee (reference: U.S./Canada Yukon River JTC. 1987b. Yukon River technical report, October 1987). Escapement goal range was based upon an inspection of Fishing Branch River fall chum salmon escapements from 1974 through 1986, and mixed stock fishery harvests (not attributed specifically to the Fishing Branch River stock) lagged four years later.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   A fall chum salmon escapement goal range of 20,300 to 61,300 aerial survey counts was developed by ADF&G in April 1981 for the Fishing Branch River. In April 1982, an aerial survey goal of 60,000 was developed. In 1984, a goal of 61,000 fall chums for the perceived high abundance cycle years (1971, 1975, 1979, etc), and 17,000 for low abundance years was developed. Since this was a spawning stock in Canada, these goals were not formally established in that they were not listed in fishery management plans or annual management reports for the Yukon River in Alaska.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Mainstem Yukon River (in Canada) Fall Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   >80,000 tagging population estimate of spawning escapement based upon the DFO tagging study on the mainstem Yukon River minus documented upstream fishery harvests (Note that a rebuilding plan has been established for mainstem Yukon River fall chum salmon in Canada for the period through 2001, with rebuilding escapement objectives.)

3. *Published Reference for This Biological Escapement Goal*:
   ADF&G. 1992. Yukon Area commercial and subsistence salmon fisheries 1992 management plan. ADF&G, Commercial Fisheries Division, RIR 3A92-10.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Established by the U.S./Canada Joint Technical Committee (reference: U.S./Canada Yukon River JTC. 1990. Yukon River salmon season review for 1990 and Technical Committee report, November 1990). Escapement goal was based upon the average of the 1982 through 1990 tagging study escapement population estimates, excluding 1982, 1984, 1988, 1989, and 1990 as outlier low escapements. Resulting average was rounded to the nearest one thousand chum.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   The U.S./Canada JTC established a mainstem Canadian Yukon River interim fall chum salmon escapement goal range of 90,000 to 135,000 in 1987 (reference: U.S./Canada Yukon River JTC. 1987a. Yukon River technical report, April 1987). That interim goal was reviewed and revised by the JTC in November 1990 to >80,000.

NORTON SOUND AREA

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Nome Subdistrict Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   4,500 aerial survey count for the Sinuk River
   1,000 aerial survey count for the Snake River
   2,000 aerial survey count for the Nome River
   3,250 aerial survey count for the Flambeau River
   5,250 aerial survey count for the Eldorado River
   1,500 aerial survey count for the Bonanza River
   550 aerial survey count for the Solomon River

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and F. Bue. 1992. Norton Sound Area commercial and subsistence salmon fisheries management plan, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-14.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded. At least five data points were used to calculate these averages.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   The chum salmon escapement goals for the Nome, Flambeau, Eldorado, and Bonanza Rivers were in place prior to the 1982 season. The goal for the Sinuk River was in place prior to the 1984 season. The Snake and Solomon River goals were in place prior to the 1991 season.

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ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Golovin Subdistrict Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   17,500 aerial survey count for the Fish River
   8,000 aerial survey count for the Niukluk River
   2,500 aerial survey count for the Boston River
   2,500 aerial survey count for the Kachavik River

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and F. Bue. 1992. Norton Sound Area commercial and subsistence salmon fisheries management plan, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-14.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded. At least five data points were used to calculate these averages.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   These chum salmon escapement goals were put into effect prior to the 1982 season. Earlier goals of 20,000 chum salmon for the Niukluk River and 3,000 chum salmon for the Boston River were in effect as early as 1979.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kwiniuk River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   18,000 tower count at the Kwiniuk River tower site

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and F. Bue. 1992. Norton Sound Area commercial and subsistence salmon fisheries management plan, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-14.

4. *In-River Run Goal and Units of Measure*:
   19,500 tower count at the Kwiniuk River tower site

5. *Published Reference for This In-River Run Goal*:
   1992 Norton Sound Area Fishery Management Plan (3A92-14)

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Ricker model apllied to escapement and return data for the period 1965 through 1990.

8. *Method for Establishing This In-River Run Goal*:
   Long term average subsistence harvest of chum salmon in the Kwiniuk River upstream from the tower site.

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   The earlier tower count goal was 25,000 chum salmon, and was in effect as early as 1979.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Tubutulik River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   12,000 aerial survey count

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and F. Bue. 1992. Norton Sound Area commercial and subsistence salmon fisheries management plan, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-14.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded. At least five data points were used to calculate these averages.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   This goal has been in effect since the 1984 season.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Norton Bay Subdistrict Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   2,500 aerial survey count for the Ungalik River
   8,500 aerial survey count for the Inglutalik River

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and F. Bue. 1992. Norton Sound Area commercial and subsistence salmon fisheries management plan, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-14.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded. At least five data points were used to calculate these averages.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   These goals have been in effect since the 1986 season.

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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Shaktoolik River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   11,000 aerial survey count

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and F. Bue. 1992. Norton Sound Area commercial and subsistence salmon fisheries management plan, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-14.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded. At least five data points were used to calculate these averages.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   This goal has been in place since the 1982 season.

ALASKA DEPARTMENT OF FISH AND GAME
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SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Unalakleet River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   13,000 aerial survey count for upper Unalakleet River index area
   2,000 aerial survey count for Old Woman River
   2,000 tower count at tower site on the North River

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and F. Bue. 1992. Norton Sound Area commercial and subsistence salmon fisheries management plan, 1992. ADF&G, Commercial Fisheries Division, RIR 3A92-14.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded. At least five data points were used to calculate these averages.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   The escapement goal for the upper Unalakleet River has been in effect since the 1991 season, and the goal for the Old Woman River since the 1986 season. The tower count goal for the North River had been 7,000 chum salmon from 1979 to 1981, but more recently was changed to 2,000 chum salmon.

KOTZEBUE AREA

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Noatak River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   80,000 aerial survey count for Noatak River from mouth to Kelly Bar

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and T. Lingnau. 1992. 1992 Salmon fisheries management plan, Kotzebue Area. ADF&G, Commercial Fisheries Division, RIR 3A92-15.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   Escapement goal for the Noatak River had been 70,000 chum salmon from 1979 to 1981, but was changed to 80,000 effective beginning with the 1981 season.

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
ARCTIC-YUKON-KUSKOKWIM REGION

SALMON ESCAPEMENT GOAL DOCUMENTATION FORM

1. *Salmon Stock (Spawning Area and Species)*:
   Kobuk River Chum Salmon

2. *Biological Escapement Goal and Units of Measure*:
   10,000 aerial survey count for Kobuk River from Kobuk Village to Beaver Cr.
   11,500 aerial survey count for Squirrel River
   7,000 aerial survey count for Salmon River
   2,000 aerial survey count for Tutuksuk River

3. *Published Reference for This Biological Escapement Goal*:
   Lean, C. and T. Lingnau. 1992. 1992 Salmon fisheries management plan, Kotzebue Area. ADF&G, Commercial Fisheries Division, RIR 3A92-15.

4. *In-River Run Goal and Units of Measure*:
   Does Not Apply

5. *Published Reference for This In-River Run Goal*:
   Does Not Apply

6. *Division Having Primary Management Responsibility*:
   Commercial Fisheries Division

7. *Method for Establishing This Biological Escapement Goal*:
   Peak annual aerial survey counts were averaged for years that produced average or better returns. Surveys that were incomplete or that were conducted under poor survey conditions were excluded.

8. *Method for Establishing This In-River Run Goal*:
   Does Not Apply

9. *Historical Background Regarding Any Prior Escapement Goals for This Stock*:
   None

LITERATURE CITED

ADF&G. 1984. Yukon Area 1984 annual management report. ADF&G, Commercial Fisheries Division.

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U.S./Canada Yukon River JTC. 1987b. Yukon River technical report, October 1987.

U.S./Canada Yukon River JTC. 1990. Yukon River salmon season review for 1990 and Technical Committee report, November 1990.

Whitmore, C. and six coauthors. 1990. Annual management report, Yukon Area, 1988. ADF&G, Commercial Fisheries Division, RIR 3A90-28.

ATTACHMENT A: SALMON ESCAPEMENT GOAL POLICY

2. Specify criteria and procedures for establishing and modifying escapement goals.

3. Set up a process that facilitates public review of allocative issues associated with establishing and modifying escapement goals.

Definitions:

Salmon: is any of the five wild anadromous Pacific salmon species native to Alaska: chinook, coho, sockeye, chum and pink salmon.

Stock: is a locally interbreeding group of salmon that is distinguished by a distinct combination of genetic, phenotype, life history, and habitat characteristics. Recognizing that most fisheries harvest mixed stocks and when this constrains management, stocks may be aggregated into larger groups for purposes of this policy. This definition is consistent with "stock" as defined in statute (AS 16.05.940(15)).

Escapement: is the annual estimated size of the spawning stock. Quality as characterized by sex and age composition may be considered in estimating escapement.

Yield: is the number of fish harvested in a particular year or season from a stock.

Sustainable Yield: is the average annual yield that results from a level of escapement that can be maintained on a continuing basis. A wide range of average annual yield levels are sustainable.

Maximum Sustainable Yield (MSY): is the greatest average annual yield from a stock. In practice, MSY is approached when a constant level of escapement is maintained on an annual basis regardless of run strength. The achievement of MSY requires a high degree of management precision and scientific information regarding the relationship between escapement and subsequent return.

Biological Escapement Goal (BEG): is the estimated escapement that produces the greatest yield, is the specific management objective for the escapement, is developed from the best available biological information, and is scientifically defensible on the basis of available biological information. The BEG is determined by the Department of Fish and Game.

Optimal Escapement Goal (OEG): is a specific management objective for the escapement that considers biological and allocative factors. The optimal escapement goal is determined by the Alaska Board of Fisheries. The optimal escapement goal may or may not be equal to the BEG but is always sustainable.

Action Point: is a threshold value for some quantitative indicator of stock run strength at which some explicit management action will be taken to reach the optimal escapement goal. An action point may be derived from criteria about locations or dates and may include a statistical projection of abundance, escapement, or harvest.

In-River Run Goal: is defined by the Board of Fisheries for stocks that are subject

to in-river harvest above the point where escapement can be estimated. The in-river run goal is comprised of the optimal escapement goal plus specific allocations to in-river fisheries and may include allocations to provide higher catch per unit effort for in-river sport fisheries.

Procedures for Documenting, Establishing and Modifying, and Reviewing Escapement Goals:

Documentation of Existing Escapement Goals:

The department will document existing escapement goals for Alaska salmon fisheries in a single report. The development of the report will be coordinated by the Chief Fisheries Scientist, Division of Commercial Fisheries. Escapement goals will be summarized by fishery, species and stock for the following commercial finfish regulatory areas or groups of areas: 1) Southeast Alaska and Yakutat areas, 2) Prince William Sound area, 3) Cook Inlet area, 4) Kodiak area, 5) Chignik area, 6) Alaska Peninsula and Aleutian Islands areas, 7) Bristol Bay area, and 8) Kuskokwim, Yukon, Norton Sound-Port Clarence, and Kotzebue-Northern areas.

The report will encompass all stocks which are currently managed for an escapement goal or other repeatable, quantitative estimate of spawner abundance. The department will classify each goal so that it is consistent with this policy, provide a brief explanation of the genesis of the current goal, identify the method for estimating or indexing escapement, and identify the fishery division having primary management responsibility. It is the department's intent to revise the report as escapement goals are established or modified.

Establishing and Modifying Escapement Goals:

The department will follow these guidelines for establishing and modifying escapement goals:

1. Biological escapement goals should be established for stocks for which the department can estimate or index salmon escapement levels. Biological escapement goals will be changed whenever new information suggests that future sustained harvest levels can be increased by that change.

2. Biological escapement goals may be a single escapement level or a range of escapement levels. Whenever the biological escapement goal is specified as a range; the lower and upper limits of escapement will be consistent with MSY and based on the inherent variability in production of the stock.

3. Whenever the department wishes to establish a new biological escapement goal or modify an existing biological escapement goal, a scientific analysis with supporting data must be prepared.

4. The department will determine whether there is substantive allocation impacts arising from management actions needed to achieve any proposed biological escapement goal. When such a determination is made, it will be presented to the Board of Fisheries.

Review Process for Escapement Goals:

An analysis supporting the proposed biological escapement goal or biological escapement goal change will be developed by the region of the division with primary management responsibility for the affected stock. The region developing the proposal will provide opportunities for appropriate personnel from other divisions to participate in developing the analysis of the proposed BEG.

Following development of the analysis supporting the proposed BEG, an inter-divisional review team will be appointed by the appropriate regional supervisors of the Divisions of Commercial Fisheries and Sport Fish. The regional supervisors will request technical assistance from their respective division's headquarters, FRED Division, and also non-departmental experts as appropriate. The review team will assess the scientific merits of the BEG by reviewing available scientific information and by analyzing the impact of the proposed BEG on the existing management program for affected stocks. In addition, the review team will make a determination of whether there is substantive allocative impacts arising from management actions needed to achieve the proposed biological escapement goal.

If the team, by consensus, determines there is no substantive allocative impact arising from management actions to achieve the BEG, the proposed BEG will be submitted to the director of the division of primary management responsibility with a recommendation for its approval.

If the team cannot achieve a consensus, either with respect to the level of the BEG or the determination of allocative impact, the proposed BEG will be submitted to the division directors (and to the Commissioner, if necessary) for resolution.

If a determination of substantive allocative impact is made by the review team or a division director, the division directors will develop a joint proposal for the Commissioner to present to the Board of Fisheries to establish an optimal escapement goal and associated management plan to achieve the goal.

Cycle for Review of Existing Escapement Goals and Establishing New Escapement goals:

At a minimum, the department will review existing BEGs or propose new BEGs on a schedule that conforms to the Board of Fisheries triennial cycle of consideration of area regulatory proposals. Specific proposals for establishing and modifying BEGs will be developed, as appropriate within limits of available personnel, based on the availability of new scientific information and new techniques or programs for escapement enumeration.

Public Review and Implementation of Biological Escapement Goals:

Escapement Goals with Little or No Allocative Impact:

An effort to inform the public of any change in a biological escapement goal will be made. This process may include review of the change with Advisory Committees in the affected area and with user groups that depend on the affected stock.

Escapement Goals with Potentially Substantive Allocative Impact:

Whenever substantive allocation issues arise from proposed management actions needed to achieve a biological escapement goal, the department will request regulatory action from the Alaska Board of Fisheries to adopt a management plan for the fisheries involved. The management plan may identify an optimal escapement goal that differs from the proposed biological escapement goal to achieve the specific allocation objectives of the Board of Fisheries. The management plan will be drafted with departmental assistance and submitted to the Board of Fisheries for consideration.

The department will determine the biological escapement goals for the affected stocks, together with analyses of allocation impacts of alternative optimal escapement goals that the Board may consider.

In development of draft management plans for stocks with significant in-river fisheries, specific allocations to in-river fisheries will be added to the optimal escapement goal to set an in-river run goal. The fisheries outside the river will be managed to achieve the in-river run goal. The draft management plan will define specific action points and associated management actions for the department to follow in managing fisheries to meet the optimal escapement goal and/or the in-river run goal.

APPROVED:

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10/16/92
Norval Netsch — Date
Director, Sport Fish Division

10/16/92
Jeff Koenings — Date
Director, FRED Division

10-16-92
Charles P. Meacham — Date
Deputy Commissioner, Alaska Department of Fish and Game

10/21/92
Carl L. Rosier — Date
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